REMARKS

Claims 1-19, 22-34, 37, 38 and 40-54 are pending.

Claims 1-19, 22-34, 37, 38 and 40-54 are rejected.

Claims 1, 26, 40, 51 and 52 are amended.

Claim 50 is cancelled without disclaimer or prejudice.

Thus, claims 1-19, 22-34, 37, 38, 40-49, and 51-54 remain pending for reconsideration, which is respectfully requested.

No new matter is being presented.

CLAIM REJECTIONS UNDER 35 U.S.C. 102 AND 103

Claims 1-17, 19, 22-24, 26-34, 37, 38 and 40-54 were rejected under 35 U.S.C. 102(b) as being anticipated by Satou et al. (U.S. Patent No. 5,315,378). Satou is newly cited, and, thus, newly relied upon.

Claims 18 and 25 were rejected under 35 U.S.C. 103(a) as being unpatentable over Satou et al. (U.S. Patent No. 5,315,378) in view of Kang (U.S. Patent No. 6,400,347).

The Examiner has withdrawn previous allowance of claims 1-18, 26-33, 40-46 and 50-54 in view Satou.

The independent claims have been 1, 19, 26, 34, 40, 47, 50, 53 and 54.

INDEPENDENT CLAIMS 1, 26, AND 40

Satou discloses adjusting the image white balance in a projection display system where the image white balance is also dependent upon the spectral characteristics of the RGB image projection optics (column 2, lines 10-27). More particularly, Satou measures the actual brightness values observed on the screen (Abstract, FIG. 1, detectors 7 and 8 provided on the screen 9). Therefore, Satou, with reference to FIG. 1, discloses that a photodetector 7 provided at about center of the screen 9 senses the light, and the luminance and chromaticity meter 8 detects and outputs the luminance values and chromaticity values (column 6, lines 6-22). The luminance and chromaticity values from the photodetector 7 and the luminance and chromaticity meter 8 are applied to the brightness color detector 6 to control amplitude conversion of the input primary color signals R, G, and B (FIG. 1, amplitude conversion controller 4, target value calculator 5, and color detector 6, and column 3, lines 8-13 and column 7, lines 9-28). The Examiner suggests that Satou's photodetector 7, the luminance and chromaticity meter 8, and

color detector 6, are similar to the claimed present invention's, "a detection portion detecting said number of emissions or said intensity" (e.g., independent claim 1).

First, Satou measures the actual brightness values ***observed on the screen*** (Abstract, FIG. 1, detectors 7 and 8 provided on the screen 9). In contrast to Satou, the claimed present invention provides, "A display apparatus for displaying a color image by controlling the number of emissions or the intensity thereof in accordance with primary color video ***signals input thereto***, comprising: ..."

The independent claims 1, 26, and 40 are amended to expressly recite the patentably distinguishing features of the present invention in the body of these claims. In contrast to Satou, the claimed present invention as recited in independent claims, 1, 26 and 40, using claim 1 as an example, provides:

> 1. (CURRENTLY AMENDED) A display apparatus for displaying a color image ~~by controlling the number of emissions or the intensity thereof in accordance with primary color video signals input thereto~~, comprising:
>
> a detection portion detecting ~~said~~ ***number of emissions or ~~said~~ intensity of the emissions***, of ***input primary color video signals***; and
>
> a white balance correction portion correcting white balance by adjusting ~~the~~ amplitudes of said input primary color video signals ***in accordance with said detected number of emissions or said detected intensity of the emissions*** (emphasis added).

Second, Satou does not disclose or suggest the claimed present invention's, "detecting said number of ***emissions*** or said intensity." In other words, Satou does not anywhere describe utilizing "***number of emissions***." Further, Satou, column 1, lines 27-32, which discusses, "A widely used method for adjusting the white balance in the self-luminance system is to adjust the RGB source signal levels in each CRT and to absorb individual differences in the emission intensity and spectrum of each CRT," (see also column 2, lines 1-15) refers to the prior art as discussed, for example, on page 31, lines 2-13, of the present Application, which discusses that in the prior art to adjust the white balance, a ***prescribed adjustment pattern*** (for example, a window pattern or the like) is displayed with ***specified gray levels***, and the signal amplitudes of the respective color video signals R, G, and B are adjusted so that the desired white balance can be obtained. See also, Satou, column 2, lines 10-18, which provides, "In a CRT projection display system, however, the image white balance is also dependent upon the spectral characteristics of the RGB image projection topics," such that Satou generally teaches away from the claimed present invention's, "a detection portion detecting ~~said~~ ***number of emissions or ~~said~~ intensity of the emissions***, of ***input primary color video signals***; and a white

balance correction portion correcting white balance by adjusting ~~the~~ amplitudes of said input primary color video signals ***in accordance with said detected number of emissions or said detected intensity of the emissions***" (amended independent claim 1), because Satou measures the actual brightness values ***observed on the screen*** (Abstract, FIG. 1, detectors 7 and 8 provided on the screen 9).

Third, Satou's photodetector 7, luminance and chromaticity meter 8, and color detector 6, determine a color with the weakest brightness (column 7, lines 1-19), which differs from the claimed present invention's, "detecting ~~said~~ number of emissions or ~~said~~ ***intensity of the emissions, of input primary color video signals***" (i.e., determining a color with weakest brightness by Satou differs from the claimed present invention's, "***detecting*** ... ***intensity of the emissions, of input primary color video signals***").

Fourth, in contrast to Satou, the claimed present invention "detects said number of emissions or said intensity ***from a display ratio of an image produced*** by said primary color video signals" (dependent claim 2, FIG. 7), ***or*** "detects said number of emissions or said intensity from ***a display current*** that flows when displaying an image in accordance with said primary color video signals" (dependent claim 7, FIG. 11).

Therefore, according to the forgoing arguments and claim amendments, independent claims 1, 26, 40, 53, and 54 are patentably distinguishing over Satou.

DEPENDENT CLAIMS 2 AND 7

Regarding dependent claim 2, the Examiner suggests that Satou in column 7, lines 1-19 discloses dependent claim 2, which recites, "detects said number of emissions or said intensity ***from a display ratio of an image produced*** by said primary color video signals." However, Satou in column 7, lines 1-19, discloses determining a color with the weakest brightness based upon a ratio of maximum luminance values (LrM, LgM, LbM) and color projection light luminance value under the desired white balance (Yr, Yg, Yb). Therefore, Satou does not disclose or suggest detecting number of emissions or said intensity, because Satou determines a color with the weakest brightness. Satou differs from the claimed present invention's, "detects said number of emissions or said intensity ***from a display ratio of an image produced*** by said primary color video signals."

Regarding dependent claim 7, the Examiner suggests that Satou discloses brightness between black and maximum brightness, which would be similar to dependent claim 7, which recites, "detects said number of emissions or said intensity from ***a display current*** that flows when displaying an image in accordance with said primary color video signals." However, in

contrast to Satou, as shown in FIG. 11, the claimed present invention provides a current detection circuit 5, which detects the current consumption (display current) of the panel drive circuit 6 (i.e., the display current) (page 25, lines 31-37 of the present Application).

INDEPENDENT CLAIMS 51, 53 and 54

Dependent claim 51 is amended into independent form.

In contrast to Satou, the claimed present invention as recited in independent claims 51 53 and 54, using claim 51 as an example, provides, "A method of correcting white balance ~~correction method as claimed in claim 50~~in a display apparatus, comprising: ~~wherein the~~***defining luminances*** of ~~said~~input primary color video signals ~~are defined by the~~***based upon number of emissions for, or ~~the~~ intensities of the emissions of, said input primary color video signals***; and ***setting an amplitude ratio between said input primary color video signals according to the luminances of said input primary color video signals defined by the defining*** based upon the number of emissions or the intensities of the emissions of the input primary color video signals, thereby suppressing variation of white balance with said luminances.

INDEPENDENT CLAIMS 19, 34, 47

Regarding independent claims 19, 34 and 47, in view of the Examiner's rationale on page 3 of the Office Action and Satou, these claims are patentably distinguishing over Satou based upon the forgoing arguments concerning independent claims 1, 26, 40, 51, 53, and 54, as well as the arguments in the previous Amendment.

More particularly, in contrast to Satou, the claimed present invention as recited in independent claim 47 provides, "***adjusting output gray levels ... [by] computing gray level correction coefficients according to the input gray levels of said images represented by said primary color video signals, and applying corrections to the input gray levels according to the computed correction coefficients***," having a benefit in which output gray levels of images represented by primary color video signals can be independently adjusted via the correction coefficients for respective primary colors in accordance with ***input gray levels*** of the images represented by the primary color video signals, and therefore, white balance can be exactly corrected.

Therefore, in contrast to Satou, claim 47 provides:

> 47. (PREVIOUSLY PRESENTED) A method of correcting white balance in a display apparatus which displays a color image by controlling number of emissions or intensity thereof in accordance with primary color video signals input thereto, the method comprising:
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> ***adjusting output gray levels of images represented by said primary color video signals according to input gray levels of said images represented by said primary color video signals***, thereby correcting the white balance which varies with the number of emissions for, or the intensities of, said primary color video signals, wherein the adjusting comprises:
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> ***computing gray level correction coefficients according to the input gray levels of said images represented by said primary color video signals***, and
>
> ***applying corrections to the input gray levels according to the computed correction coefficients*** (emphasis added).

The Examiner, in page 3 of the Office Action, relies on Satou, FIG. 1. However, for example, Satou measures the actual brightness values ***observed on the screen*** (Abstract, FIG. 1, detectors 7 and 8 provided on the screen 9). In contrast to Satou, the claimed present invention provides, "adjusting output gray levels of images represented by said primary color video signals according to ***input gray levels*** of said images represented by said primary color video signals."

CONCLUSION

Therefore, in view of the claim amendments and remarks, withdrawal of the rejection of pending claims and allowance of pending claims is respectfully requested.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

Respectfully submitted,
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Date: December 7, 2004

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